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OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER	
DOLLINGER, MICHAEL M	

ART UNIT	PAPER NUMBER
1796	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com
oblonpat@oblon.com
jgardner@oblon.com

Office Action Summary	Application No.	Applicant(s)	
	10/575,104	SIMON ET AL.	
	Examiner	Art Unit	
	MICHAEL DOLLINGER	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 September 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12 and 22-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12 and 22-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. The objections to the claims in the Office Action filed 31 March 2008 have been obviated by the amendments to the claims.

Claim Rejections - 35 USC § 112

2. The rejections to the claims under 35 USC § 112 in the Office Action filed 31 March 2008 have been obviated by the amendments to the claims.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 1-9, 22-29, 31 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Simon et al (US 6,300,413 B1) in view of Hefele (US 5,153,064).

6. Regarding claims 1, 2, 4 and 5, Simon et al. disclose a hot-melt adhesive composition for coating, lamination, or coating and lamination of a sheet-like structure in accordance with the double dot technique with an upper and lower dot (see Example). Simon et al. disclose the aforementioned structure wherein the upper and lower dots comprise either an amine-terminated copolyamide (column 1, line 10) or an OH-terminated copolyester (column 1, lines 21-22), and further comprising a crosslinker (column 2, line 42), and acrylic and polyurethane dispersions (column 1, line 56-57).

7. Regarding claim 3, Simon et al. disclose identical ranges for the physical properties (column 3, lines 25-30).

8. Regarding claims 6 and 7, Simon et al. disclose crosslinkers that are solid isocyanates with more than two free NCO groups and a melting range of 100-130°C (column 3, lines 3-5).

9. Regarding claim 8, Simon et al. disclose a crosslinker that is an epoxide with the exact same properties claimed (column 3, lines 5-10).

10. Regarding claims 9 and 26, Simon et al. disclose a trimerized diisocyanate which has been passivated and processed as an aqueous paste (column 2, lines 44-48). Simon et al. also disclose a solid isocyanates crosslinker with more than two free NCO groups (column 3, lines 3-4).

11. Regarding claim 22, Simon et al. disclose copolyester based on terephthalic acid, isophthalic acid and butanediol, or butanediol in combination with small amounts of other diols (glycols) (column 3, lines 35-38). This disclosure anticipates the

combinations of glycols claimed in claim 14. Examiner notes that PTHF is also known as polytetramethylene glycol and is considered a glycol in organic chemistry practice.

12. Regarding claim 23, Simon et al. disclose an interlining material for clothing comprising a material and a coating or lamination according to the double dot method of claim 1 in the examples in columns 3-5.

13. Regarding claims 24 and 25, Simon et al. disclose polyurethane and acrylate dispersions (column 1, lines 55-57). Examiner notes that acrylates are derivatives of acrylic acids and the species of "acrylate" anticipates the genus of "acrylic," as claimed.

14. Regarding claim 27, Simon et al. discloses a crosslinker that is a trimerized diisocyanate which has been passivated by extrusion with an atactic polyolefin (column 2, lines 44-47).

15. Regarding claim 28, 31 and 32, Simon et al disclose that crosslinking occurs in the lower dot during drying and the upper dot during melting (column 4 lines 38-42). Drying occurs at 130°C (column 3 lines 64-66) and joining temperature occurs at 127°C (column 4 lines 9-11). All the starting materials melt between 100°C and 120°C (column 4 lines 55-64). The cross-linking temperature is henceforth necessarily between 100°C and 130°C and the upper and lower dots are bonded in the melt.

16. Regarding claim 29, Simon et al. disclose a method of coating or laminating sheetlike structures according to the double dot method in claim 1 in the examples in columns 3-5.

17. Simon et al. fail to disclose a multilayer adhesive structure which combines a lower dot comprising a copolyester with an upper dot comprising a copolyamide.

18. Hefele teaches multilayer adhesive structures in accordance with the double dot method analogous to those structures disclosed in Simon et al. with lower dots comprising copolyesters and upper dots comprising copolyamides (Examples 3 and 4). These structures show better adhesion values (see Table, column 9) than analogous structures in which both upper and lower dots are copolyesters. Hefele also discloses that copolyester hot-melt adhesives exhibit better washing stability than copolyamide hot-melt adhesives (column 2, lines 28-30).

19. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have prepared a double dot hotmelt adhesive with an amine terminated copolyamide upper dot and OH-terminated polyester lower dot because Simon et al teach that it is within the skill of the art to prepare a double dot hotmelt adhesive with an amine terminated copolyamide or an OH-terminated polyester and Hefele teaches that it is within the skill of the art to prepare a double dot adhesive from a copolyamide upper dot and a polyester lower. One would have been motivated to combine a copolyamides upper dot and polyester lower dot because Hefele teaches that these structures show better adhesion values and exhibit better washing stability. Absent any evidence to the contrary, there would have been a reasonable expectation of success in combining a copolyamides upper dot and a polyester lower dot to form a double dot hotmelt adhesive.

20. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Simon et al. (US 6,300,413 B1) in view of Hefele (US 5,153,064) as applied to claim 1 above, and further in view of Kohlhammer et al (US 5,977,244).

21. Simon et al in view of Hefele fail to teach the epichlorohydrin as a crosslinker. Simon et al do teach, however, that bisphenol A is a suitable crosslinker (column 3 lines 10-11).

22. Kohlhammer et al. disclose typical epoxide crosslinkers for textiles of acrylic copolymers (column 2 lines 13-16) are epichlorohydrin and bisphenol A (column 3, lines 47-50). Kohlhammer et al. henceforth teach that epichlorohydrin and bisphenol A are functional equivalents for the purpose of crosslinking acrylic polymers. When the prior art recognizes two compounds as functional equivalent for the same purpose, it is *prima facie* obvious to substitute one compound for the other. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used epichlorohydrin as a crosslinker in the hotmelt adhesive structure of Simon et al.

23. Additionally, selection of a known material based on its suitability for its intended use is *prima facie* obvious, see *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have crosslinked a lower dot of a double dot interlining with epichlorohydrin because Simon et al. teach that is within the skill of the art to crosslink the lower dot of a double dot structure and Kohlhammer et al. teach that textiles of acrylic copolymers may be crosslinked with epichlorohydrin.

24. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Simon et al (US 6,300,413 B1) in view of Hefele (US 5,153,064) with further evidence provided by Mattor et al (US 4,282,054).

25. Applicants claim the use of the lower dot of the multilayer adhesive structure as a strikethrough barrier. This is an intended use limitation. The recitation of an intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentable distinguish the claimed invention for the prior art. If the prior art structure is capable or performing the intended use, then it meets the claim.

26. Simon et al in view of Hefele do not explicitly disclose that the lower dot is used as a strikethrough barrier. Simon et al do teach, however, that the lower dot is crosslinkable (abstract).

27. Mattor et al teach that crosslinkable resins can be used as a strikethrough barrier on a sheet-like structure (column 1, liners 53-58). Since the lower dot of Simon et al is crosslinkable, it may be used as a strikethrough barrier.

28. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Simon et al (US 6,300,413 B1) in view of Hefele (US 5,153,064) as applied to claim 4 above, and further in view of Hiratsuka et al (US 5,019,347). Simon et al. disclose application of a lower dot as a paste comprising a passivated isocyanate (column 2, lines 44-48) but fail to disclose application of the lower dot in halftone formation.

29. Hiratsuka et al teach application of an multilayer adhesive coating applied to a sheetlike structure in a formation of dots distributed microscopically at random and of varying size and shape but appear essentially uniformly in total (column 4, lines 18-21). Examiner takes the position that any non uniform distribution of dots that appears essentially uniform in total reads on the halftone method. Hiratsuka et al. teach that the adhesive area ratio can be adjusted (column 4, lines 28-34) and henceforth optimized to the thickness of the substrate by adjusting the size and width of the dots (column 4, lines 38-41).

30. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the halftone method with the multilayer adhesive structure of claim 1 because Simon et al in view of Hefele teach that it is within the skill of the art to form a double dot adhesive wherein the lower dot is applied as a paste and Hiratsuka et al teach it is within the skill of the art to apply an adhesive in the double dot method. One would have applied the lower dot in a halftone method in order to have controlled the amount of adhesive applied and receive the expected benefit of low waste application with variable adhesion and texture of the final interlining. Absent any evidence to the contrary, there would have been reasonable expectation of success of optimizing the adhesive area ratio to the thickness of the sheet-like structure to which the adhesive is applied.

31. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Simon et al. (US 6,300,413 B1) in view of Hefele (US 5,153,064) as applied to claim 29 above,

and further in view of Kohlhammer et al (US 5,977,244), and still in further view of Dobson et al (US 5,242,877).

32. Applicant claims the multilayer adhesive structure wherein the crosslinking reaction is accelerated by catalysis. Simon et al in vie of Hefele, discussed above, do not teach the acceleration of crosslinking with accelerating catalysts.

33. Kohlhammer et al. disclose crosslinking catalysts for the textile binder composition (column 3, lines 58-60).

34. Dobson et al. teach that catalysts speed up (accelerate) a reaction by lowering the activation energy (column 1 lines 27-29). Accelerating a reaction reduces reaction time and lowering the activation energy reduces energy input, both of which reduce production costs.

35. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have accelerated the crosslinking in a lower dot of a double dot interlining because Simon et al in view of Hefele teach that it is within the skill of the art to crosslink the lower dot of a double dot interlining and Kohlhammer et al. teach that it is within the skill of the art to use crosslinking catalysts for textile binders. One would have been motivated to do this because Dobson et al. teach that accelerating chemical reactions reduces the reaction time and energy input henceforth reduces cost. Absent any evidence to the contrary, there would have been a reasonable expectation of success in accelerating the crosslinking reaction of Simon et al in view of Hefele with crosslinking catalysts.

Response to Arguments

36. Applicant's arguments, see page 7 line 3 through page 8 line 5, filed 30 September 2008, with respect to the provisional double patenting rejection of have been fully considered and are persuasive. The rejection of 31 March 2008 has been withdrawn.

37. Applicant's arguments with respect to the 35 USC § 103 rejection based on Simon et al in view of Hefele filed 30 September 2008 have been fully considered but they are not persuasive.

38. Applicant argues that a) the base dot of the present specification differs in that the major component is an acrylic polymer dispersion while the major component of the base dot of Simon et al is the reactive isocyanate containing powder mixture, b) the isocyanate of the present invention is passivated by the presence of hexamethylenediamine while the isocyanate of Simon et al is passivated by incorporation into polyethylene, and c) the hotmelt adhesive component reacts in the melt. These arguments are not persuasive because:

a. The claims do not recite limitations on the amounts of components of an acrylic polymer dispersion and do not require or imply that the acrylic polymer dispersion be the "major component" of the of the base dot. The prior art is shown to teach all of the components of both the upper dot and lower dot as claimed.

b. The claims only require the crosslinker to be passivated and do not recite limitations on the method of passivation.

c. As discussed in the prior art rejections above, Simon et al disclose that crosslinking occurs in the lower dot during drying and the upper dot during melting (column 4 lines 38-42). Drying occurs at 130°C (column 3 lines 64-66) and joining temperature occurs at 127°C (column 4 lines 9-11). All the starting materials melt at or below 120°C (column 55-64). There is no evidence that reaction occurs before melt in Simon et al.

39. Applicant's arguments with respect to claim 11 have been considered but are moot in view of the new ground(s) of rejection.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL DOLLINGER whose telephone number is (571)270-5464. The examiner can normally be reached on Monday - Thursday 7:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MICHAEL DOLLINGER
Examiner
Art Unit 1796

/mmd/

/Randy Gulakowski/
Supervisory Patent Examiner, Art Unit 1796